

A giant inguinoscrotal swelling with intestinal obstruction – a case report

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Abstract: Giant inguinal hernias are unusual and are extremely rare nowadays because of easier access to hospital services, early diagnosis better hernioplasty techniques. They are significantly challenging in terms of surgical management. It is defined as an inguinal hernia that extends below the midpoint of inner thigh when the patient is in standing position. They can either be asymptomatic or can present with complications.

We report a case of a 68-year-old male who presented with features of intestinal obstruction. The patient was found to have giant right-sided inguinal hernia with ipsilateral hydrocele for 12 yrs that was extending almost up to the patient's knee joint and it was tender, irreducible without a cough impulse. He had no cardio-respiratory illness. Emergency exploration via inguinoscrotal approach revealed that contents were the small and large intestines, omentum and mesentery. Right orchidectomy, omentectomy and reduction of contents into abdominal cavity followed by a double-layered closure of wall, and scrotoplasty were done.

Keywords: Giant inguinoscrotal hernia, scrotal abdomen, intestinal obstruction

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I. Introduction:

Giant inguinal hernias are unusual and are extremely rare nowadays because of early intervention and better hernioplasty techniques. They are significantly challenging in terms of surgical management. It is defined as an inguinal hernia that extends below the midpoint of inner thigh when the patient is in standing position [1]. They are extremely rare and are always longstanding, present for years together. They remain asymptomatic or present without any complication and account for approximately 0.5% of inguinal hernias [2]. Such giant hernias are not commonly encountered in modern surgical practice and are usually the result of neglect or fear of surgical procedures and are prevalent only in the rural population. [3]. They pose special problems in management. Rarely, a giant hernia presents as an intestinal obstruction. Contents are mostly gut, mesentery, or omentum. Reduction of contents in giant inguinal hernia may lead to respiratory compromise due to elevation of intra-abdominal pressure and elevation of diaphragm. Reduction of contents via enlarging internal ring in giant inguinal hernia is rarely reported [4]. Problems arise in management of giant inguinal hernias because of inadequate experience and a rarity of reported cases.

II. Case Report:

A 68-year-old male came to emergency department with complaints of lower abdominal pain, vomiting and constipation for past 3 days. He had history of burning micturition and difficulty in passing urine. He was living with right inguinoscrotal swelling for past 12 years. He is hypertensive and on regular treatment. He had no respiratory or cardiac illnesses.

On examination abdomen was soft and distended. He was noted to have a very large right inguinoscrotal swelling reaching up to the knee. The cough impulse was negative and the swelling was tender and irreducible. There was separate ipsilateral testicular swelling in lower one third of inguinoscrotal swelling with thickened scrotal skin and dilated veins (Figure 1). He had abdominal distention suggestive of intestinal obstruction. Left inguinal hernial orifice was free and left testis was palpable. Penis was completely buried. Patient was resuscitated and immediate Ryles tube decompression was done. His vitals were stable. There was a rise in WBC count with deranged renal parameters and electrolyte imbalance.

Patient underwent emergency exploration via inguinoscrotal approach. Intra operatively caecum, ascending colon and part of transverse colon and 2nd 3rd of small intestine and a organized mesentery which

appeared as a mass was seen as content. There were no signs of ischemia. Dense inter-bowel adhesions were found (Figure 2). Ipsilateral testis was grossly enlarged (Figure 3). Manual reduction of the hernia contents into the abdominal cavity was achieved after widening of the deep inguinal ring but without any bowel resection. Adhesiolysis was done and redundant sac excised. Right orchidectomy was done and a double-layered closure by prolene was done followed by reconstruction of the scrotal wall was done and a corrugated drain was placed in the scrotal sac.

Fig-1 CLINICAL PRESENTATION



Fig-2 INTRA OPERATIVE FINDING



Fig-3 RIGHT ORCHIDECTOMY WITH SCROTAL SKIN EXCISION



III. Discussion

Giant inguinal hernias are rare now a day. Giant inguinal hernia is defined as an inguinal hernia that extends below the midpoint of inner thigh when the patient is in standing position [1], if associated with loss of abdominal domain they known as scrotal abdomen [2]. They reach large dimensions because the patients may be asymptomatic or have fear to undergo surgical treatment, or the patient may not be fit for surgery due to technical difficulties such as cardio respiratory compromise [2].

Apart from classical complications of inguinal hernias, the massive size of giant hernias often causes difficulty in walking, sitting, or lying down, with mobility dramatically restricted. These specific problems severely impair the patient's quality of life, with considerable psychological and social impact [5]. These patients generally have voiding difficulty and urinary retention, [6]. Sometimes the penis may be buried inside the scrotum causing dribbling of urine over the scrotal skin, which causes excoriation, ulceration, and secondary infection [6,7]. The contents of giant inguinal hernias are usually the small bowel with its mesentery, caecum with ascending colon, sigmoid colon, transverse colon and greater omentum, but there are case reports of giant hernias containing stomach, ovaries and the bladder [7,8]. Ipsilateral spermatic cord is greatly elongated and prone to torsion. The testis is often atrophic. Other complications include intestinal obstruction, incarceration and strangulation of the contents should be ruled out. Complications in giant inguinal hernias can even be fatal.

Giant inguinoscrotal hernias have very high morbidity and mortality associated with their repair. Repair of a giant inguinal hernia is a real challenge, even for experienced surgeons. Forced reduction of massive contents of the hernia sac into the peritoneal cavity cause abrupt increase in intraabdominal and intrathoracic pressures leading to abdominal compartment syndrome, resulting in compromised respiratory and cardiac function due to elevation of the diaphragm and decrease in venous return [4]. Postoperative ileus can further

increase intra abdominal pressure [9]. In addition to many complications, reintroduction of the intestine into the abdomen may also cause intestinal obstruction, wound dehiscence, and hernia recurrence. Furthermore, the distention of abdominal skin exerts tension on the postoperative wound, which significantly impairs healing [10].

Previously giant inguinal hernias are treated with progressive pre operative pneumoperitoneum to increase the space of peritoneal cavity. The recommended method is by injecting 100 to 1000mL of air daily for 2 weeks through an intraperitoneal catheter . Gas choices include natural ambient air, oxygen, carbon dioxide and nitrous oxide. Pneumoperitoneum is however not very effective because the air insufflation causes enlargement of the hernia sac, rather than the abdominal cavity, requires prolonged preoperative hospitalization and also has a high failure rate. However it is also contraindicated in patients with strangulated hernias and in those with abdominal infections.

Many case reports have described hemicolecotomy, omentectomy, splenectomy, small bowel resection and even phrenectomy as treatment modalities for giant inguinoscrotal hernias. The post-operative recovery for these patients is characterized by a prolonged duration of elective mechanical ventilation. Ventilation for a minimum period of 10 days in the intensive care unit has been suggested [9].

Some of the surgical options are either distending the abdominal wall to increase the abdominal space or debulking the abdominal contents. Several techniques have been proposed in the literature. Rotation of viable tissue is the one technique to increase intra-abdominal volume by increasing surface of the abdominal wall. Anterior abdominal wall defect is closed without tension by using prosthetic mesh and a myocutaneous scrotal flap. Later, a modification was made by using the hernial sac as a peritoneal flap. Similarly, a tensor fasciae latae musculocutaneous flap was alternatively used to cover mesh at an anterior abdominal wall defect. Component separation technique is one used to advance rectus muscle by freeing external oblique from internal oblique muscle. The advantage of rotation of viable tissue is that it prevents abdominal compartment syndrome and it is a single-staged procedure.

IV. Conclusion

Giant inguinal hernia presenting as intestinal obstruction is rare. The management of such giant inguinal hernia is challenging. Reduction of contents into the peritoneal cavity by widening the internal ring with hernia repair can be done and good postoperative care can reduce the incidence of cardio respiratory problems, wound dehiscence and recurrence rates.

References

- [1]. Hodgkinson DJ, McIlrath DC. Scrotal reconstruction for giant inguinal hernias. *Surg Clin North Am* 1984;64(2):307–313
- [2]. Karthikeyan VS, Sistla SC, Ram D, Ali SM, Rajkumar N. Giant inguinoscrotal hernia--report of a rare case with literature review. *International surgery*. 2014;99 : 560-564.
- [3]. Sturniolo G, Tonante A, Gagliano E, Taranto F, Lo Schiavo MG, D'Alia C. Surgical treatment of the giant inguinal hernia. *Hernia* 1999;3(1):27–30
- [4]. Coetzee E, Price C, Boutall A. Simple repair of a giant inguinoscrotal hernia. *International journal of surgery case reports*. 2011; 2: 32-35.
- [5]. Karthikeyan VS, Sistla SC, Ram D, Ali SM, Rajkumar N. Giant inguinoscrotal hernia--report of a rare case with literature review. *International surgery*. 2014;99 : 560-564
- [6]. Petersen LF, Luu MB. Giant inguinal scrotal hernia containing the sigmoid colon. *Am Surg*. 2014;80:e185–6.
- [7]. Udawadia TE. Stomach strangulated in inguinal hernia presenting with hematemesis. *International surgery*. 1984; 69: 177-179.
- [8]. Weitzenfeld MB, Brown BT, Morillo G, Block NL. Scrotal kidney and ureter: an unusual hernia. *The Journal of urology*. Mar 1980;123(3): 437- 438.
- [9]. Birnbaum DJ, Gregoire E, Campan P, Hardwigsen J, Le Treut YP. A large inguinoscrotal hernia with stomach content. *ANZ journal of surgery*. Jan 2011; 81(1-2): 86-87.
- [10]. Mehendal FV, Taams KO, Kingsnorth AN. Repair of a giant inguinoscrotal hernia. *Br J Plast Surg* 2000; 53:525–9.
- [11]. Hodgkinson DJ, McIlrath DC. Scrotal reconstruction for giant inguinal hernias. *Mayo Clinic proceedings*. 1982; 57: 383-386.
- [12]. Tahir M, Ahmed FU, Seenu V. Giant inguinoscrotal hernia: case report and management principles. *International journal of surgery*. 2008; 6: 495- 497.
- [13]. Barst H.H. Pneumoperitoneum as an aid in the surgical management of giant inguinal hernia. *Br J Surg*. 1972;59(5):360–364.
- [14]. Piskin T, Aydin C, Barut B, Dirican A, Kayaalp C. Preoperative progressive pneumoperitoneum for giant inguinal hernias. *Ann Saudi Med*. 2010;30:317–20.
- [15]. Moreno IG. Chronic eventrations and large hernias; preoperative treatment by progressive pneumoperitoneum; original procedure. *Surgery*. 1947; 22: 945-953.
- [16]. Merrett N, Biankin A. Giant inguinal hernia containing right colon repaired using the PROLENE hernia system. *ANZ J Surg*. 2009;79:92–3.
- [17]. El-Dessouki NI. Preperitoneal mesh hernioplasty in giant inguinoscrotal hernias: a new technique with dual benefit in repair and abdominal rooming. *Hernia*. 2001;5:177–81.
- [18]. Chernev I. A giant inguinoscrotal hernia. *ScientificWorldJournal* 2010;10:72–73. doi:10.1100/tsw.2010.6
- [19]. Hamad A, Marimuthu K, Mothe B, Hanafy M. Repair of massive inguinal hernia with loss of abdominal domain using laparoscopic component separation technique. *J Surg Case Rep*. 2013;2013(3):rjt008.
- [20]. Valliattu A.J., Kingsnorth A.N. Single-stage repair of giant inguinoscrotal hernias using the abdominal wall component separation technique. *Hernia*. 2008;12(3):329–330.